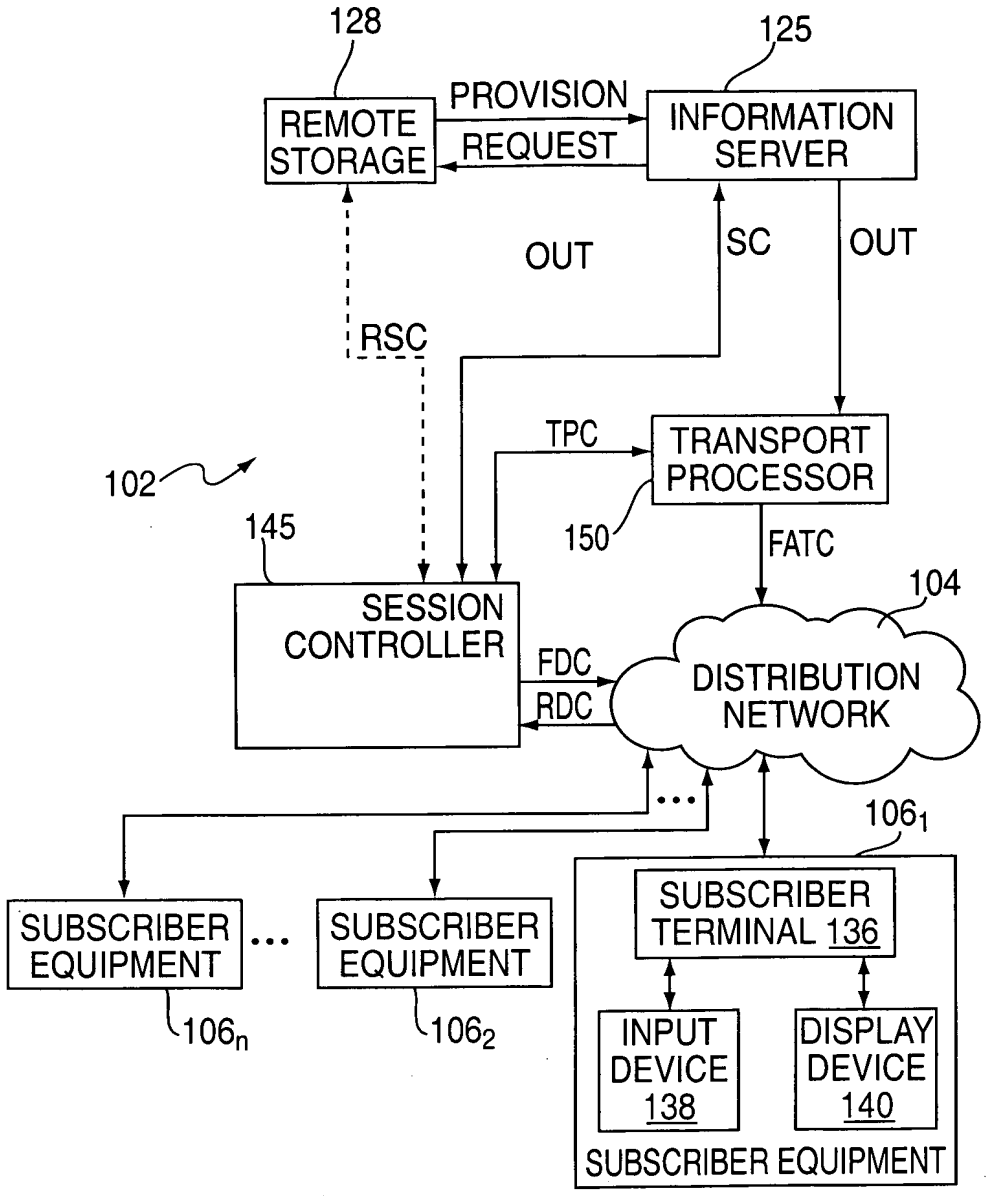

128
125
REMOTE STORAGE
PROVISION
REQUEST
INFORMATION SERVER
OUT
SC
OUT
RSC
TPC
TRANSPORT PROCESSOR
102
145
150
FATC
104
SESSION CONTROLLER
FDC
RDC
DISTRIBUTION NETWORK
106_1
SUBSCRIBER EQUIPMENT
SUBSCRIBER EQUIPMENT
SUBSCRIBER TERMINAL 136
INPUT DEVICE 138
DISPLAY DEVICE 140
SUBSCRIBER EQUIPMENT
106_n
106_2

FIG. 1

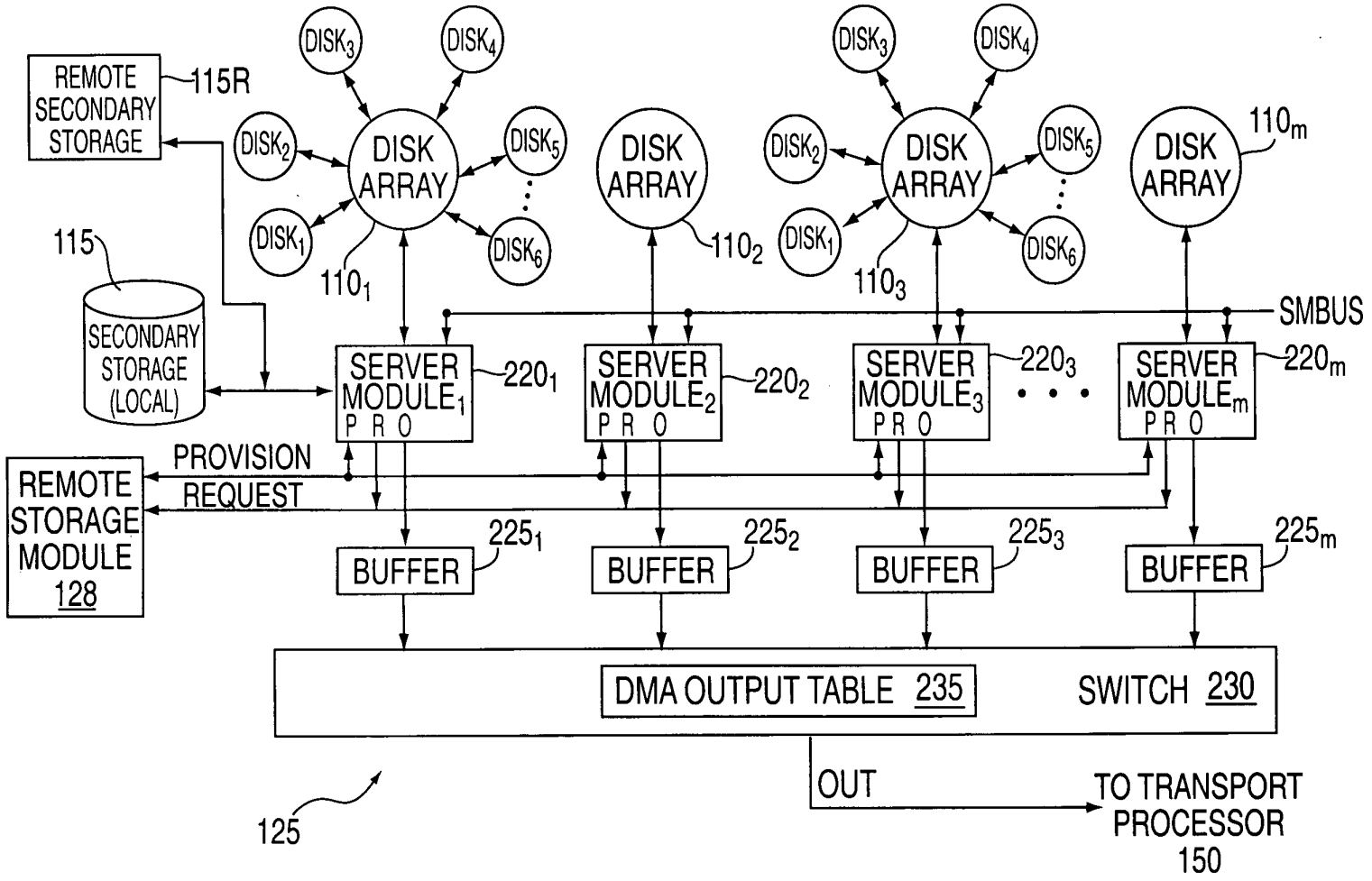

REMOTE SECONDARY STORAGE
115R
115
SECONDARY STORAGE (LOCAL)
DISK ARRAY
DISK1
DISK2
DISK3
DISK4
DISK5
DISK6
1101
1102
1103
110m
SMBUS
SERVER MODULE1
SERVER MODULE2
SERVER MODULE3
SERVER MODULEm
PRO
2201
2202
2203
220m
PROVISION REQUEST
REMOTE STORAGE MODULE 128
BUFFER
2251
2252
2253
225m
DMA OUTPUT TABLE 235
SWITCH 230
OUT
TO TRANSPORT PROCESSOR 150
125

FIG. 2

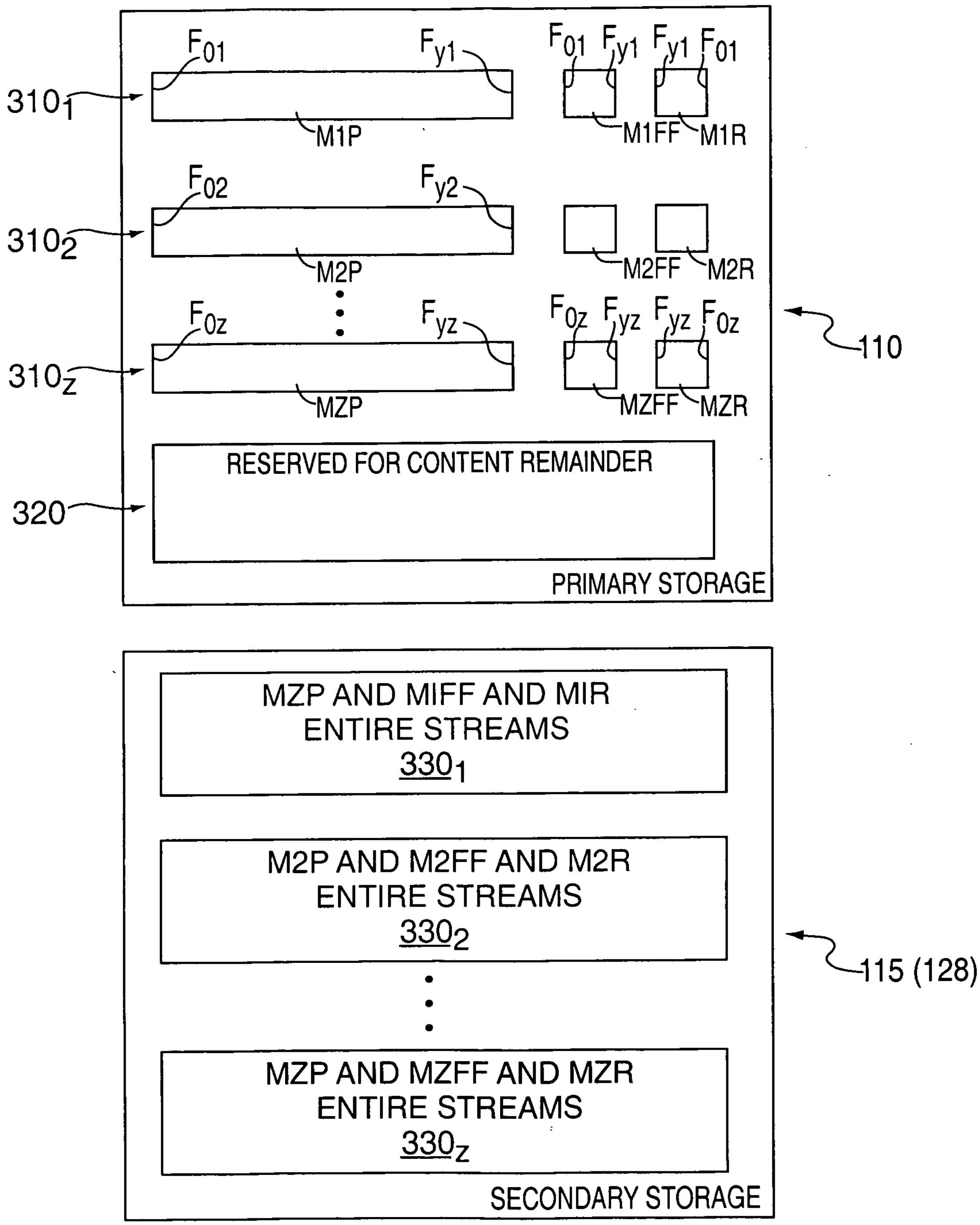
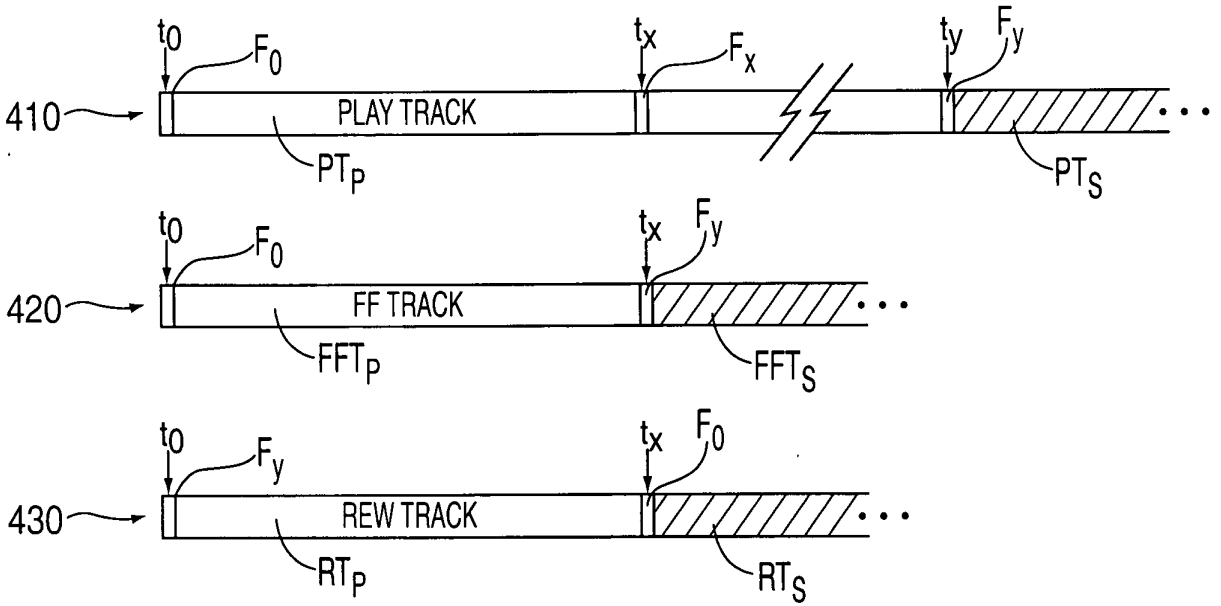


FIG. 3



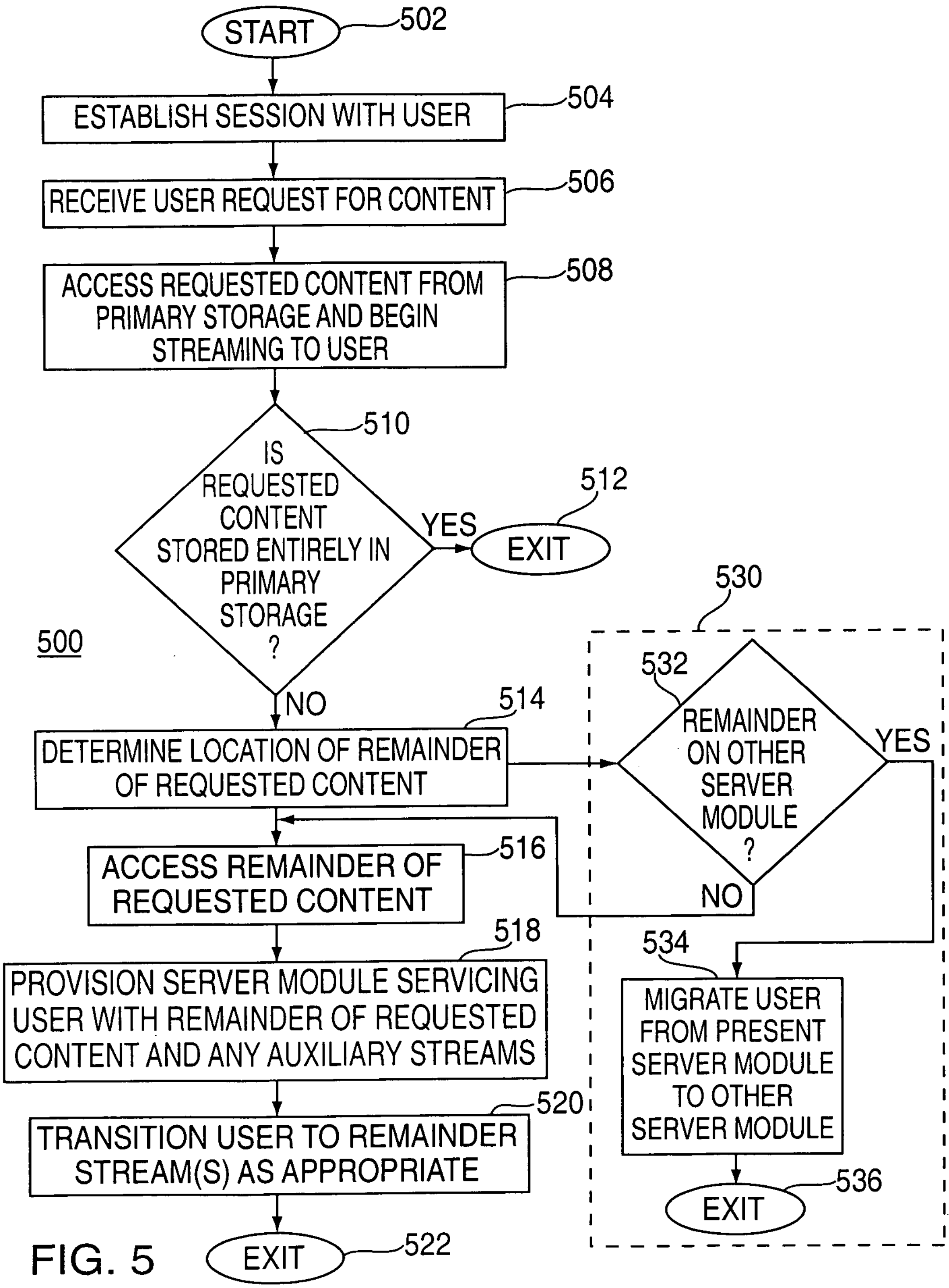
ASSUME STORAGE OF 20 MINUTES OF PLAY TRACK ($ty = t_0 + 20$ minutes)
ON PRIMARY STORAGE, therefore $tx = \frac{ty}{\text{FF/REW RATE}}$

t_0 = TIME AT START OF EACH TRACK ON PRIMARY STORAGE
t_x = TIME AT END OF FF TRACK AND REW TRACK ON PRIMARY STORAGE
t_y = TIME AT END OF PLAY TRACK ON PRIMARY STORAGE

IF FF/REW RATE $\approx$ 9 * PLAY RATE, THEN $T_y = 9 * T_x$

F_0 = FIRST FRAME IN PLAY TRACK ON PRIMARY STORAGE
F_y = LAST FRAME IN PLAY TRACK ON PRIMARY STORAGE

FIG. 4


START
502
ESTABLISH SESSION WITH USER
504
RECEIVE USER REQUEST FOR CONTENT
506
ACCESS REQUESTED CONTENT FROM PRIMARY STORAGE AND BEGIN STREAMING TO USER
508
IS REQUESTED CONTENT STORED ENTIRELY IN PRIMARY STORAGE ?
510
YES
EXIT
512
500
NO
DETERMINE LOCATION OF REMAINDER OF REQUESTED CONTENT
514
ACCESS REMAINDER OF REQUESTED CONTENT
516
PROVISION SERVER MODULE SERVICING USER WITH REMAINDER OF REQUESTED CONTENT AND ANY AUXILIARY STREAMS
518
TRANSITION USER TO REMAINDER STREAM(S) AS APPROPRIATE
520
EXIT
522
530
532
REMAINDER ON OTHER SERVER MODULE ?
YES
NO
534
MIGRATE USER FROM PRESENT SERVER MODULE TO OTHER SERVER MODULE
EXIT
536
FIG. 5